

REMARKS / ARGUMENTS

In the application, no claims currently stand allowed and claims 1 – 46 stand rejected.

Claims 1, 2, 4, 5, 14 – 18, 24, 25, 27, 28, and 37 – 41 were rejected under 35 USC § 103(a) as being unpatentable over “The Impact of Inexpensive Communication on a Commercial RPC System” by Zimmer et al. (“Zimmer”) in view of “Virtual Interface Architecture Specification, Revision 1.0” (“VIA”). Claims 3, 6, 7, 26, 29, and 30 were rejected under 35 USC § 103(a) as being unpatentable over Zimmer when combined with VIA in view of Kougiouris et al. (“Kougiouris”), U.S. Patent No. 6,131,126. Claims 8, 13, 19, 20, 31, 36, 42, and 43 were rejected under 35 USC § 103(a) as being unpatentable over Zimmer when combined with VIA in view of Lim et al. (“Lim”), U.S. Patent No. 6,044,409. Claims 9 – 12, 21 – 23, 32 – 35, and 44 – 46 were rejected under 35 USC § 103(a) as being unpatentable over Zimmer when combined with VIA and Lim in view of Kougiouris.

The Office action dated February 9, 2004, has been carefully considered. For reasons presented hereinafter, Applicants request reconsideration of the above rejections because the rejections fail to present a prima facie case of obviousness under the requirements of 35 USC § 103(a) and thus must be withdrawn.

The Office action cites the Zimmer reference in combination with the VIA reference to reject all of the independent claims under 35 USC § 103(a). Zimmer endeavors to solve performance issues associated with the Distributed Component Object Model (DCOM) running over a remote procedure call (RPC) layer. As explained on page 2 of the Zimmer reference, “... adaptation of distributed object systems to use higher performance networks has been of intense interest to the distributed object community.” Consequently, Zimmer proposes a solution based on

a transport approach whereby a new loadable transport module is implemented that supports DCOM and RPC applications. *See* Section 1, p. 2, Section 3, p. 4. Zimmer concludes, however, that such a solution does not lead to potential performance gains – beyond those experienced at the low level transport – as the RPC runtime limits any such gains. *See* Section 1, p. 2, Section 7, p. 3. Zimmer instead suggests that the only way that an appreciable gain in performance of DCOM over RPC can be achieved is by modifying the RPC architecture. *See* Section 1, p. 2, Section 6, p. 11.

As the MPEP clearly states, “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.” Manual of Patent Examining Procedure, § 2141.02. From the foregoing, it is evident that the current action reflects the impermissible picking and choosing from Zimmer only so much of it as will support a given position while excluding the other parts of Zimmer necessary to the full appreciation of what Zimmer fairly suggests to one of skill in the art. In this regard, the current action clearly disregards that Zimmer initially suggests the use of a newly implemented loadable transport to increase the efficiency of communications – and later a redesign of the RPC system as a whole – as opposed to the claimed use of pointers and the transmission of these pointers by the network interface card.

Zimmer stresses on page 2 that:

“Using the FM transport improves RPC performance only moderately reducing null RPC latency by three times, from 362 to 105 μ s. **These results show that a 100x improvement in network performance translates into only a three times improvement in RPC application.**”

On page 13 Zimmer goes on to conclude that:

“The network performance assumptions on which existing RPC implementations are based (slow, unreliable networks) ***make them unable to deliver the performance*** [emphasis added] of emerging communication technologies such as Fast Messages, Active Messages, and ***VIA*** [emphasis added] to applications.”

“Because the potential benefits of inexpensive communication on both distributed application efficiency and flexibility are so great, we believe they *justify the substantial investment to rearchitect commercial RPC systems to reflect these performance concerns* [emphasis added].”

See also Section 6, page 11 (“The RPC performance benchmarks over the FM loadable transport clearly indicate that the underlying communication performance cannot be delivered by the RPC runtime... Remedying these problems requires at least a significant redesign of the RPC architecture...”). Since neither Zimmer nor VIA, when read as a whole, teach or suggest the claimed invention, the rejection under 35 USC § 103(a) must be withdrawn.

Furthermore, it is noted that the combination of Zimmer and VIA espoused in the Office action would change the principle of operation of Zimmer. As the MPEP clearly states, “If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.” Manual of Patent Examining Procedure, § 2143.01. In this regard, Zimmer describes the desirability of building a loadable transport as a way to improve the efficiency of DCOM communications running over RPC. This loadable transport is implemented via Illinois Fast Messages v2.1 (FM), a high performance, user-level networking kernel and leverages the use of Myrinet networking hardware. See Section 2.3. p. 4. Meanwhile, the VIA reference teaches an architecture specification for the interface between high performance network hardware and computer systems. The application of the VIA reference would be in direct contrast to the teachings set forth in Zimmer. Therefore, since the asserted modification of Zimmer in view of the teachings set forth in VIA would require the elimination of a principal aspect of the invention described in Zimmer, namely, implementing the new loadable transport in FM leveraging the use of Myrinet

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networking hardware, the teachings of the references are not sufficient to render the claims prima facie obvious.

Finally, it is well recognized that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As the MPEP clearly states, “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” Manual of Patent Examining Procedure, §2143.01. Turning to the specific rejections of the claims, the Office action fails to cite to any teaching or suggestion taken from either Zimmer or VIA that can be said to suggest any motivation, to one of ordinary skill in the art, for the combination relied upon to demonstrate the purported obviousness of the claimed invention. For example, independent claims 1, 14, 24, and 37 were rejected as being obvious by combining the elements of Zimmer and VIA because such a combination “would avoid intermediate copies of the data and bypasses operating system [sic] to achieve low latency, high bandwidth data transfer.” This purported motivation for combining the references, however, fails to be expressly or implicitly suggested in either Zimmer or VIA.

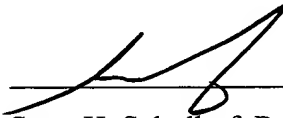
In sum, it is submitted that the rejections set forth in the Office action fail to present a prima facie case of obviousness as is required under 35 USC § 103(a) and thus must be withdrawn. As this technique for accelerating a distributed component architecture over a network using a direct marshaling is not discussed in, nor rendered obvious by, the cited art, Applicants further submit that all of the pending claims are now allowable.

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CONCLUSION

In view of the above amendments and remarks, the application is considered in good and proper form for allowance. The Examiner is respectfully requested to pass this application to issue. If, in the opinion of the examiner, a telephone conference would expedite the prosecution of the subject application, the examiner is invited to call the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Scott H. Schulhof', is written over a horizontal line.

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Date: May 10, 2004